

(v)  $t_4 - t_3$  shall not be more than 6 milliseconds.

(vi) The average deceleration between  $t_2$  and  $t_3$  shall not be more than 26g, or less than 22g.

(4) Allow the neck to flex without the head or neck contacting any object other than the pendulum arm.

(5) Allow at least 60 minutes between successive tests.

[56 FR 57836, Nov. 14, 1991, as amended at 57 FR 4086, Feb. 3, 1992]

**§ 572.74 Thorax assembly and test procedure.**

(a) *Thorax assembly.* The thorax consists of the part of the torso assembly designated as SA 106C 030 on drawing SA 106C 001, sheet 2, and conforms to each applicable drawing on SA 106C 001, sheets 10 and 11.

(b) *Thorax assembly requirements.* When the thorax is impacted by a test probe conforming to § 572.77(a) to  $20 \pm 0.3$  fps according to the test procedure in paragraph (c) of this section, the peak resultant accelerations at the accelerometers mounted in the chest cavity according to § 572.77(c) shall not be less than 43g and not more than 53g.

(1) The recorded acceleration-time curve for this test shall be unimodal at or above the 30g level, and shall lie at or above that level for an interval not less than 4 milliseconds and not more than 6 milliseconds.

(2) The lateral accelerations shall not exceed 5g.

(c) *Thorax test procedure.* The test procedure for the thorax is as follows:

(1) Seat and orient the dummy on a seating surface without back support as specified in § 572.78(c), and adjust the joints of the limbs at any setting (between 1g and 2g) which just supports the limbs' weight when the limbs are extended horizontally and forward, parallel to the midsagittal plane.

(2) Establish the impact point at the chest midsagittal plane so that the impact point is 2.25 inches below the longitudinal center of the clavicle retainer screw, and adjust the dummy so that the plane that bisects the No. 3 rib into upper and lower halves is horizontal  $\pm 1$  degree.

(3) Place the longitudinal center line of the test probe so that it coincides with the designated impact point, and

align the test probe so that at impact, the probe's longitudinal center line coincides (within 2 degrees) with the line formed at the intersection of the horizontal and midsagittal planes and passing through the designated impact point.

(4) Impact the thorax with the test probe so that at the moment of contact the probe's longitudinal center line falls within 2 degrees of a horizontal line in the dummy's midsagittal plane.

(5) Guide the test probe during impact so that there is no significant lateral, vertical, or rotational movement.

(6) Allow at least 30 minutes between successive tests.

[56 FR 57836, Nov. 14, 1991, as amended at 60 FR 2897, Jan. 12, 1995]

**§ 572.75 Lumbar spine, abdomen, and pelvis assembly and test procedure.**

(a) *Lumbar spine, abdomen, and pelvis assembly.* The lumbar spine, abdomen, and pelvis consist of the part of the torso assembly designated as SA 106C 50 and 60 on drawing SA 106C 001, sheet 2, and conform to each applicable drawing listed on SA 106C 001, sheets 12 and 13.

(b) *Lumbar spine, abdomen, and pelvis assembly response requirements.* When the lumbar spine is subjected to a force continuously applied according to the test procedure set out in paragraph (c) of this section, the lumbar spine assembly shall—

(1) Flex by an amount that permits the rigid thoracic spine to rotate from the torso's initial position, as defined in (c)(3), by 40 degrees at a force level of not less than 46 pounds and not more than 52 pounds, and

(2) Straighten upon removal of the force to within 5 degrees of its initial position when the force is removed.

(c) *Lumbar spine, abdomen, and pelvis test procedure.* The test procedure for the lumbar spine, abdomen, and pelvis is as follows:

(1) Remove the dummy's head-neck assembly, arms, and lower legs, clean and dry all component surfaces, and seat the dummy upright on a seat as specified in Figure 42.

(2) Adjust the dummy by—

(i) Tightening the femur ballflange screws at each hip socket joint to 50 inch-pounds torque;